IRIDOLOGY

THE

OPHTHALMOSCOPE

Compiled by

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IMPORTANT

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Introduction

An ophthalmoscope (see picture to the right, lower instrument) is an optical instrument, which consists of a mirror with a small hole in the middle and a holding device. It is used to examine the fundus/retina and other parts of the eye. *(Fundus - the base of a hollow organ; the part furthest from the opening; e.g. the back of the eye/retina*). (In the picture to the right, the upper instrument is an otoscope, which is used to examine the ear, etc.)

A good view of the fundus will not only give an indication as to the health of the eye, but will also indicate a lot about the patient's overall health. Early signs of diabetes, hypertension, and neurological problems can be detected with the ophthalmoscope.

The path that the examiner's eye follows through the patient's eye to the fundus is extremely narrow. Consequently, the most efficient method of viewing the fundus is to keep the ophthalmoscope's light beam and the examiner's viewing path in near coincidence. In this way, parallax-problems and resultant shadowing are kept to a minimum.

Method of examination ('Funduscopic examination' *(examination of the fundus)* - to review vessels; to assess intracranial tension):

- Keep both yours and the patient's eyes open.

- Have the patient focus on a distant object.
- Look at the right fundus with your right eye.
- The ophthalmoscope should be close to your eye, and your head and scope should move together.
- Set the lens opening at +8 to +10 dioptres. *(Dioptre – a unit of refractive power, which is equal to the reciprocal of the focal length (in metres) of a given lens.)* With the ophthalmoscope held at 12-15 inches from the patient's eye, check for the red reflex and for opacities in lens or aqueous elements.

- While adjusting the dioptre setting, approach the patient more closely, and systematically inspect the disc. Note the colour, shape, margins, and cup-to-disc ratio.
- Inspect the vessels, noting obstruction, calibre, and arterial/venous ratio.
- Note the presence of arterial/venous nicking, and arterial light reflex.
- Check the background by inspecting for pigmentation, haemorrhages, and hard or soft exudes.

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Abnormal Findings:

- Loss of red reflex (Cataract, detached retina)
- Lens opacities and cataract
- Aqueous opacities (Floaters)
- Fundus

Disc

Papilloedema

Atrophy

Vessels

Tortuosity

Straightening

AV crossing

AV nicking (Hypertension)

Background

Tiger pattern

Pigmentation

Hemorrhage (Hypertension, diabetes)

Exudate (Hypertension, diabetes)

Retinitis pigmentosa

Macula (macula lutea - the region of greatest visual acuity in the retina)

Star (Hypertension)

Degeneration

Leukemic infiltration

Tortuous retinal veins and haemorrhage (Macroglobunemia)

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Following are Examples of retina/fundus images:

Normal Retina/Fundus

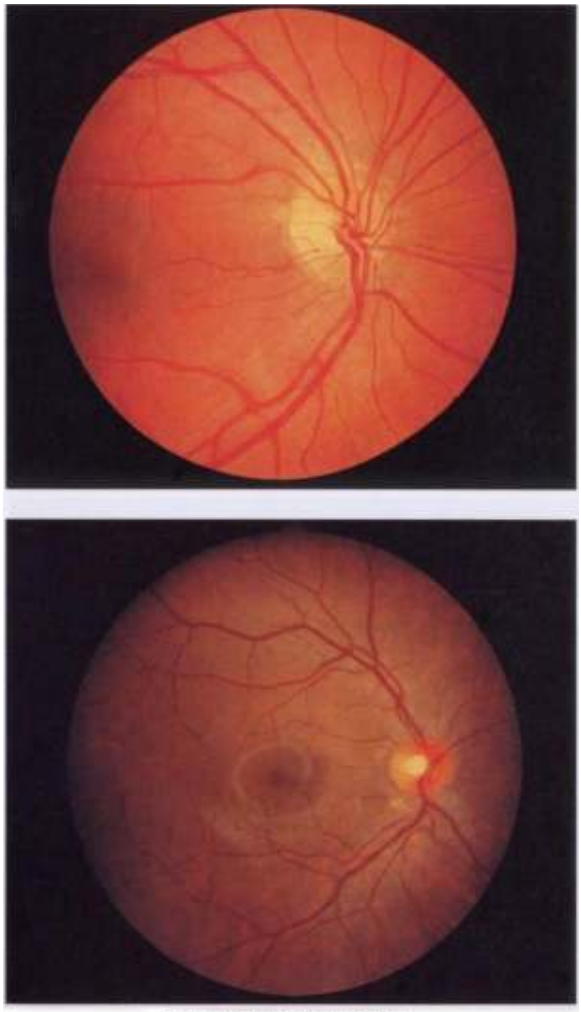

Fig: Normal Fundus
Top - Caucasian; Bottom - Asian

Fig. Retinal soft exudates, flame haemorrages, and early macular star of hard exudate in hypertensive diabetic patient

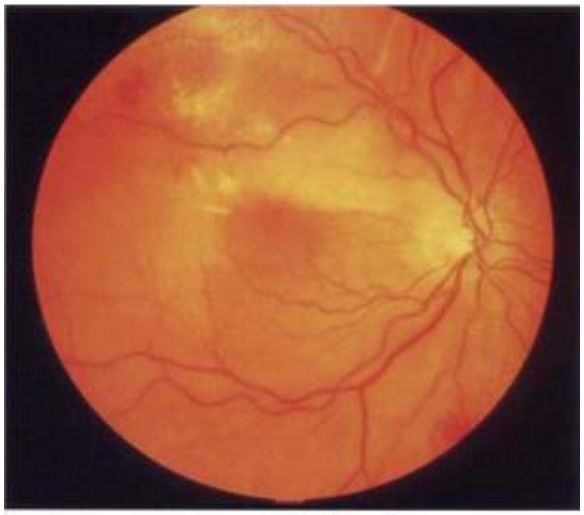

Fig: Branch retinal artery occlusion showing retinal oedema above the macula and a red cherry spot

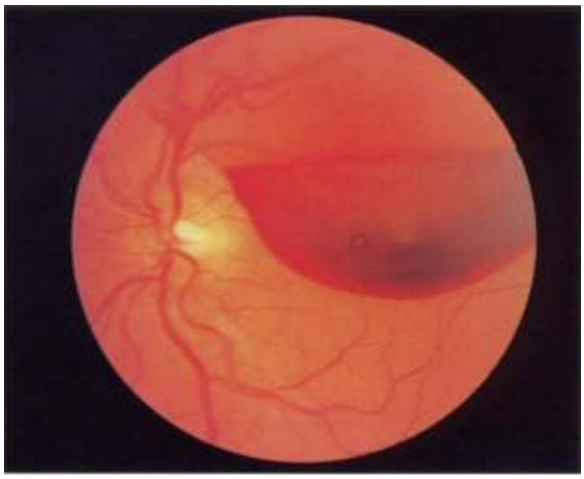

Fig: Preretinal haemorrhage

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